

RE: SWD Specialties' Request for new source approval, Mullin #1 and #2

Stephen Roy to: shumphrey
Cc: Janette Hansen

12/28/2011 10:55 AM

Hi, Shawn,

I got your phone message when I returned to the office this morning. I don't have the analytical results for these wells yet. Did you ever locate them?

Your message indicated that both the Mullin #1 and Mullin #2 produce from the Dundee Limestone. The letter of August 11, 2011 said #1 was from the Traverse Group, so I want to confirm the correction.

If it's OK with you, I would like to process the request for the Field Stone Partners #2-33 at the same time (which you sent in December 7).

Steve

Thanks for the holiday greetings - best wishes to you and your family!

Shawn Humphrey Steve, Leslie is no longer with us, I will be doing... 12/09/2011 10:28:08 AM

From: Shawn Humphrey <shumphrey@arrowenergyservices.com>
To: Stephen Roy/R5/USEPA/US@EPA
Date: 12/09/2011 10:28 AM
Subject: RE: SWD Specialties' Request for new source approval, Mullin #1 and #2

Steve,

Leslie is no longer with us, I will be doing all the request from here on out. I am sorting thru Leslie's files and looking for the analyses and will get it to you as soon as I find it.

Shawn

Shawn Humphrey
SWD Specialties LLC
4030 Columbus Dr
Kalkaska MI 49646
Cell: 989-370-6658
Office: 231-258-7911
mailto:shumphrey@swdsp.com
http://www.swdsp.com

-----Original Message-----

From: Roy.Stephen@epamail.epa.gov [mailto:Roy.Stephen@epamail.epa.gov]
Sent: Thursday, December 08, 2011 4:44 PM
To: Shawn Humphrey
Subject: Fw: SWD Specialties' Request for new source approval, Mullin #1 and #2

Hi, Shawn,

I just tried to send this to Leslie but the mail system was unable to deliver it. Do you know the status of these analyses?

Steve

----- Forwarded by Stephen Roy/R5/USEPA/US on 12/08/2011 03:43 PM -----

From: Stephen Roy/R5/USEPA/US

To: Leslie Johnston <LJohnston@sedcoddcc.com>
Date: 12/08/2011 03:41 PM
Subject: Fw: SWD Specialties' Request for new source approval,
Mullin
#1 and #2

Hello, Leslie,

I recently re-discovered this email. Did you ever receive the results of the re-analysis? I don't think I ever received anything.

Steve

----- Forwarded by Stephen Roy/R5/USEPA/US on 12/08/2011 03:39 PM -----

From: Stephen Roy/R5/USEPA/US
To: Leslie Johnston <LJohnston@sedcoddcc.com>
Cc: shumphrey@arrowenergyservices.com
Date: 08/17/2011 03:50 PM
Subject: RE: SWD Specialties' Request for new source approval,
Mullin
#1 and #2

Thanks, Leslie. I looked at the list of MDEQ field names that I have and found out that there are two fields with the name Elmwood, one (#968) from the Dundee Limestone, the other (#2205) from the Traverse Group. Therefore, we should keep the two sources separate when you have the brines analyzed.

If you have any questions, just give me a call - 312-886-6556.

Steve

From: Leslie Johnston <LJohnston@sedcoddcc.com>
To: Stephen Roy/R5/USEPA/US@EPA
Date: 08/17/2011 09:50 AM
Subject: RE: SWD Specialties' Request for new source approval,
Mullin
#1 and #2

Mr. Roy:

With respect to your e-mail below, we are in the process of re-running the analytical on the Mullin wells utilizing the correct parameters in accordance with our permits. I will forward you the new analytical when the same is received.

With respect to your additional inquiry concerning the field name for the wells, it is the Elmwood Field located in Tuscola County, Michigan.

Should you have any questions or require additional information, please feel free to contact me at 231-499-9406 or 231-258-7911.

Thanks,
Leslie Johnston

-----Original Message-----

From: Shawn Humphrey
Sent: Wednesday, August 17, 2011 8:53 AM
To: Leslie Johnston

Subject: FW: SWD Specialties' Request for new source approval, Mullin #1 and #2

Shawn Humphrey
SWD Specialties LLC
4030 Columbus Dr
Kalkaska MI 49646
Cell: 989-370-6658
Office: 231-258-7911
mailto:shumphrey@swdsp.com
http://www.swdsp.com

-----Original Message-----

From: Roy.Stephen@epamail.epa.gov [mailto:Roy.Stephen@epamail.epa.gov]
Sent: Tuesday, August 16, 2011 4:38 PM
To: Shawn Humphrey
Subject: SWD Specialties' Request for new source approval, Mullin #1 and #2

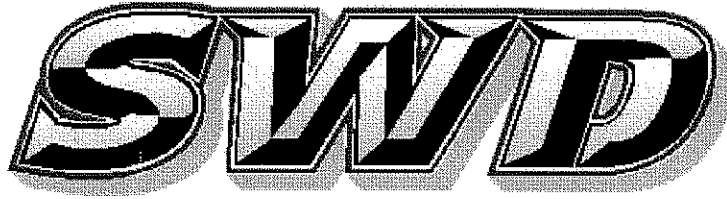
Hi, Shawn,

I just received this request and I have some questions. The information you provided does not identify the field (or fields) from which the samples came. It identifies two formations, one for each well, the Traverse Group and the Dundee. Generally, the MDEQ-defined fields are specific to a single formation. Please contact your local MDEQ office to find out if these really are in the same field or if they are from two separate fields and what the field name is (or names are). If they're from different fields, we'll need two analyses.

Regarding the analysis, I wasn't able to find the specific gravity of the sample. This is important because we need to ensure that it's less than the value used to calculate the Maximum Injection Pressure for these wells. You should be using the set of analytes listed in Attachment A of your permits:

Chemical composition analysis shall include, but not be limited to, the following: Sodium, Calcium, Magnesium, Barium, Total Iron, Chloride, Sulfate, Carbonate, Bicarbonate, Sulfide, Total Dissolved Solids, pH, Resistivity (ohm-meters @ 75F), and Specific Gravity.

Steve



— SPECIALTIES LLC —

4030 Columbus Drive
Kalkaska, MI 49646
231-258-7911

January 8, 2010

Mr. Stephen Roy
United States Environmental Protection Agency
Region 5
77 W. Jackson Blvd.
Chicago, IL 60604

RECEIVED

JAN 19 2010

UIC BRANCH
EPA REGION 5

RE: Year End Brine Sources for 2009

Dear Mr. Roy:

Enclosed you will find the list of year end brine sources for the various wells owned and operated by SWD Specialties, LLC during the year 2009.

Should you have any questions or require additional information, please feel free to contact me at (231) 258-6029.

Sincerely,

Leslie A. Johnston

/lj
Enclosures

HOGGERHEIDE 1-29 SWD (2009) Year End Brine Source

Generator	Lease	Code
Key Energy	Norwich 32	252
Key Energy	Norwich 18	252
Key Energy	Orient 21	197
BP/Retec	Chester W1-36	51

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JAN 19 2009

UIC BRANCH
EPA REGION 5

MILLER 23-41 SWD (2009) Year End Brine Source

Generator

Lease

Code

No sources for 2009

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JAN 19 2010

UIC BRANCH
EPA REGION 5

SIMPSON 1-9 SWD (2009) Year End Brine Source

Generator

Lease

Code

No sources for 2009

St. Blair 5-21 SWD (2009) Year End Brine Source

Generator

Lease

Code

No sources for 2009

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JAN 19 2010

UIC BRANCH
EPA REGION 5

WEDOW ST. BLAIR 2-28 SWD (2009) Year End Brine Source

Generator	Lease	Code
O.I.L. Energy Corp.	Janofski 1-29A	26

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JAN 19 2010

UIC BRANCH
EPA REGION 6

WLOSINSKI 2-27 SWD (2009) Year End Brine Source

Generator

Lease

Code

No sources for 2009

RECEIVED

JAN 19 2010

LIC DIVISION
EPA REGION 4



July 23, 2013

United States Environmental Protection Agency
Region 5 UIC Section (WU-16J)
77 West Jackson Boulevard
Chicago, IL 60604-3590

JUL 25 2013

Mr. Raymond Vugrinovich
Michigan Department of Environmental Quality
Constitution Hall, South Tower, 1st Floor
525 W. Allegan Street
Lansing, Michigan 48933

Via email

RE: SWD Specialties, LLC Class I&II Waste Source Addition #271
Miller 23-41 SWD Injection Well #MI-035-1I-C001
Hogerheide 1-29 SWD Injection Well #MI-079-2D-C001
Simpson 1-9 SWD Injection Well #MI-079-2D-C008
State Blair 5-21 SWD Injection Well #MI-055-2D-C015
Wedow St. Blair 2-28 SWD Injection Well #MI-055-2D-C033
Wlosinski 2-27 SWD Injection Well #MI-079-2D-C016

SWD Specialties, LLC submits the following information and analysis for the following Class II waste approval request to include produced brine and related site fluids including mixtures of brine that include flowback. Please add to the source list for the above referenced injection wells.

Lease: Encana Oil and Gas USA, Inc.
Well: State Garfield 1-25 HD1
County: Kalkaska
T25N, R6W, Section 36 SW ¼ of NE¼ of SE ¼
Field: No field designation found
Formation: Collingwood



Company: Encana Oil and Gas USA, Inc.
370 17th Street, Suite 1700
Denver, CO 80202
720-876-3533

JUL 26 2013

Please send any correspondence to the address below.

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref 40 CFR Section 144.32)

Thank You,

A handwritten signature in dark ink, appearing to read "Colleen Allen", is written over the printed name.

Colleen Allen
Northern A-1 Environmental Services
P.O. Box 1030
Kalkaska, MI 49646
colleen@northerna1.com

cc: Steve Kniss – SWD Specialties
Ken Cooper – Petrotek
Well File



22-Jul-2013

Cheryl Klein
Northeastern Exploration, Inc.
1190 M 32
Johannesburg, MI 49751

Re: **Kalkaska - Collingwood 20CL2**

Work Order: **1307623**

Dear Cheryl,

ALS Environmental received 1 sample on 18-Jul-2013 09:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MN 532786

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue, Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company



www.alsglobal.com

RIGHT SOLUTIONS

ALS Group USA, Corp

Date: 22-Jul-13

Client: Northeastern Exploration, Inc.
Project: Kalkaska - Collingwood 20CL2
Work Order: 1307623

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1307623-01	Kalkaska Co.-Collingwood#20CL2	Water		7/16/2013 16:30	7/18/2013 09:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Jul-13

Client: Northeastern Exploration, Inc.

Project: Kalkaska - Collingwood 20CL2

Sample ID: Kalkaska Co.-Collingwood#20CL2

Collection Date: 7/16/2013 04:30 PM

Work Order: 1307623

Lab ID: 1307623-01

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS (DISSOLVED)						
			SW6020A		Prep Date: 7/19/2013	Analyst: RH
Barium	33		5.0	mg/L	100	7/20/2013 05:58 AM
Calcium	25,000		500	mg/L	100	7/20/2013 05:58 AM
Iron	89		80	mg/L	100	7/20/2013 05:58 AM
Magnesium	1,900		200	mg/L	100	7/20/2013 05:58 AM
Potassium	3,400		200	mg/L	100	7/20/2013 05:58 AM
Sodium	16,000		200	mg/L	100	7/20/2013 05:58 AM
ALKALINITY (AS CaCO3)						
			A2320 B-97			Analyst: JB
Alkalinity, Bicarbonate (as CaCO3)	65		10	mg/L	1	7/18/2013 02:22 PM
Alkalinity, Carbonate (as CaCO3)	ND		10	mg/L	1	7/18/2013 02:22 PM
CHLORIDE						
			A4500-CL C-97			Analyst: ED
Chloride	80,000		3.0	mg/L	1	7/18/2013 02:10 PM
ANIONS BY ION CHROMATOGRAPHY						
			SW9056			Analyst: ED
Sulfate	140		100	mg/L	100	7/22/2013 12:22 PM
PH						
			A4500-H B-96			Analyst: JB
pH (laboratory)	6.1	H	s.u.		1	7/18/2013 10:20 AM
RESISTIVITY						
			A2510 B-97			Analyst: JB
Resistivity	6.6		1.0	ohm-cm @75°	1	7/18/2013 12:50 PM
SULFIDE						
			SW9030			Analyst: CH
Sulfide	ND		1.0	mg/L	1	7/22/2013 12:00 PM
SPECIFIC GRAVITY						
			D5057-90			Analyst: CH
Specific Gravity	1.094		none		1	7/19/2013 03:30 PM
TOTAL DISSOLVED SOLIDS						
			A2540 C-97			Analyst: YM
Total Dissolved Solids	110,000		10	mg/L	1	7/18/2013 02:00 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Northeastern Exploration, Inc.
Project: Kalkaska - Collingwood 20CL2
WorkOrder: 1307623

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
mg/L	Milligrams per Liter
none	
ohm-cm @75°F	Ohms-Centimeter at 75 Degrees Fahrenheit
s.u.	Standard Units

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: NORTHEASTERN

Date/Time Received: 18-Jul-13 09:00

Work Order: 1307623

Received by: DS

Checklist completed by: Diane Shaw

18-Jul-13

Reviewed by: Gary Byar

18-Jul-13

eSignature

Date

eSignature

Date

Matrices: Water

Carrier name: FedEx

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☐

No ☐

Not Present ☒

Custody seals intact on sample bottles?

Yes ☐

No ☐

Not Present ☒

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Container/Temp Blank temperature in compliance?

Yes ☐

No ☒

Temperature(s)/Thermometer(s):

7.4 c

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage:

7/18/2013 10:55:42 AM

Water - VOA vials have zero headspace?

Yes ☐

No ☐

No VOA vials submitted ☒

Water - pH acceptable upon receipt?

Yes ☒

No ☐

N/A ☐

pH adjusted?

Yes ☐

No ☒

N/A ☐

pH adjusted by:

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction



3947 US 131 North Kalkaska, MI 49646

August 29, 2013

Rebecca Harvey
United States Environmental Protection Agency
Region 5 UIC Section (WU-16J)
77 West Jackson Boulevard
Chicago, IL 60604-3590

RECEIVED

SEP 03 2013

UIC BRANCH
EPA, REGION 5

Mr. Raymond Vugrinovich
Michigan Department of Environmental Quality
Constitution Hall, South Tower, 1st Floor
525 W. Allegan Street
Lansing, Michigan 48933

Please be advised the below source request is no longer needed. SWD Specialties LLC was given incorrect information from Encana. Please withdraw the request.

RE: SWD Specialties, LLC Class I&II Waste Source Addition #275²⁷²
Miller 23-41 SWD Injection Well #MI-035-1I-C001
Hogerheide 1-29 SWD Injection Well #MI-079-2D-C001
Simpson 1-9 SWD Injection Well #MI-079-2D-C008
State Blair 5-21 SWD Injection Well #MI-055-2D-C015
Wedow St. Blair 2-28 SWD Injection Well #MI-055-2D-C033
Wlosinski 2-27 SWD Injection Well #MI-079-2D-C016

SWD Specialties, LLC submits the following information and analysis for the following Class II waste approval request to include produced brine and related site fluids including mixtures of brine that include flowback. Please add to the source list for the above referenced injection wells.

Lease: Encana Oil and Gas
Well: State Oliver 1-1
County: Kalkaska
T26N, R6W, S 1 NE¼ of NW¼ of NE¼
Field: No field name found

Formation: Cincinnati

Company: Encana Oil and Gas USA, Inc.
370 17th Street, Suite 1700
Denver, CO 80202
720-876-3533

Please send any correspondence to the address below.

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref 40 CFR Section 144.32)

Thank You,



Colleen Allen

Northern A-1 Environmental Services
P.O. Box 1030
Kalkaska, MI 49646
colleen@northernal.com

cc: Steve Kniss – SWD Specialties
Ken Cooper – Petrotek
Well File

RECEIVED

SEP 03 2013

UIC BRANCH
EPA, REGION 5

Hansen, Janette

From: Colleen Allen [ColleenA@northern1.com]
Sent: Monday, August 26, 2013 8:28 AM
To: Hansen, Janette
Subject: RE: Well Report Oliver 1-1

Hi Janette, you are correct and I don't need source request 275. Can I reuse the number for a new request or should I skip it?

Thank You,

Colleen Allen
231-258-7339

-----Original Message-----

From: Hansen, Janette [mailto:hansen.janette@epa.gov]
Sent: Wednesday, August 14, 2013 4:32 PM
To: Colleen Allen
Subject: RE: Well Report Oliver 1-1

Colleen,

The well report lists this as a Dry Hole, which means that it wouldn't be producing brine. You may need to go back to Encana and straighten this out.

Janette

-----Original Message-----

From: Colleen Allen [mailto:ColleenA@northern1.com]
Sent: Wednesday, August 14, 2013 10:12 AM
To: Hansen, Janette
Subject: Well Report Oliver 1-1

Hi Janette, attached is the well report where I found the formation name. However when searching the well file I see Formation at total depth; Trenton.

Thank You,

Colleen Allen
231-258-7339

-----Original Message-----

From: xerox@northern1.com [mailto:xerox@northern1.com]
Sent: Wednesday, August 14, 2013 12:41 PM
To: Colleen Allen
Subject: Scan from a Xerox WorkCentre

Please open the attached document. It was scanned and sent to you using a Xerox WorkCentre.

Attachment File Type: PDF

WorkCentre Location: American Waste
Device Name: XRX0000AA710A6B

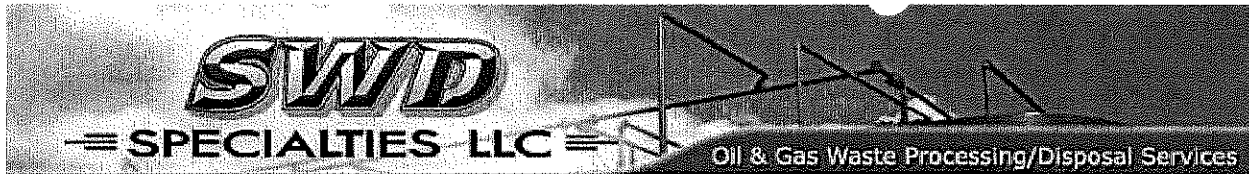


WELL SUMMARY REPORT

 API NO: 21-079-60357-00-00
 PERMIT NO: 60357

Operator ENCANA OIL AND GAS USA INC			Well STATE OLIVER 1-1		
Permit Issued 2011-06-23	Drilling Started 2011-08-24	Well Completed 2011-08-24	Well Type Dry Hole	Well Status Well Completed	
Surface Location County Name KALKASKA			Township OLIVER		
Town Range Section 26N-6W-1		QTRQTRQTR NENWNE		Latitude 44.6829	Longitude -84.9783
Bottom Location County Name			Township		
Town Range Section		QTRQTRQTR		Latitude 44.6829	Longitude -84.9783
Well Elevations: Ground: 1140, Derrick Floor: 1152, Kelly Bushing: 1154			Depths Measured From: Ground Level		
Formation at Total Depth CINCINNATIAN			Drilled Total Depth 8462	True Vertical Total Depth	
Producing Formation					

Note: For vertical wells, the bottom hole location is the same as the surface location.



3947 US 131 North Kalkaska, MI 49646

August 6, 2013

Rebecca Harvey
United States Environmental Protection Agency
Region 5 UIC Section (WU-16J)
77 West Jackson Boulevard
Chicago, IL 60604-3590

Mr. Raymond Vugrinovich
Michigan Department of Environmental Quality
Constitution Hall, South Tower, 1st Floor
525 W. Allegan Street
Lansing, Michigan 48933

RE: **SWD Specialties, LLC Class I&II Waste Source Addition #275**
Miller 23-41 SWD Injection Well #MI-035-1I-C001
Hogerheide 1-29 SWD Injection Well #MI-079-2D-C001
Simpson 1-9 SWD Injection Well #MI-079-2D-C008
State Blair 5-21 SWD Injection Well #MI-055-2D-C015
Wedow St. Blair 2-28 SWD Injection Well #MI-055-2D-C033
Wlosinski 2-27 SWD Injection Well #MI-079-2D-C016

SWD Specialties, LLC submits the following information and analysis for the following Class II waste approval request to include produced brine and related site fluids including mixtures of brine that include flowback. Please add to the source list for the above referenced injection wells.

Lease: Encana Oil and Gas
Well: State Oliver 1-1
County: Kalkaska
T26N, R6W, S 1 NE $\frac{1}{4}$ of NW $\frac{1}{4}$ of NE $\frac{1}{4}$
Field: No field name found
Formation: Cincinnati

Company: Encana Oil and Gas USA, Inc.
370 17th Street, Suite 1700
Denver, CO 80202
720-876-3533

RECEIVED

AUG 07 2013

UIC BRANCH
EPA, REGION 5

Please send any correspondence to the address below.

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref 40 CFR Section 144.32)

Thank You,



Colleen Allen
Northern A-1 Environmental Services
P.O. Box 1030
Kalkaska, MI 49646
colleen@northern1.com

cc: Steve Kniss – SWD Specialties
Ken Cooper – Petrotek
Well File

RECEIVED

MS 07 03



4125 Cedar Run Rd., Suite B
 Traverse City, MI 49684
 Phone 231-946-6767
 Fax 231-946-8741
 www.sosanalytical.com

COMPANY: NORTHERN A-1
 NAME:
 PROJECT NO: ENCANA ST OLIVER
 WSSN:
 WELL PERMIT:
 TAX ID:
 LOCATION:

SOS PROJECT NO: 133611 - I
 SAMPLED BY: JUSTIN LITWINSKI
 DATE RECEIVED: 7/26/2013
 TIME RECEIVED: 9:00 AM
 SAMPLE ID: ENCANA ST OLIVER
 DATE SAMPLED: 7/25/2013
 TIME SAMPLED: 7:00 AM
 SAMPLE MATRIX: WASTEWATER

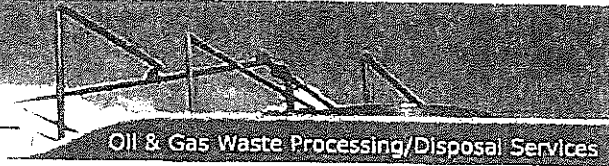
MI
 COUNTY:
 TWP:

INORGANICS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>	<u>Drinking Water Reg Limit(MCL)</u>
ALKALINITY SM2320-BICARB	40	10	mg/L (PPM)	KMJ	8/1/2013	
ALKALINITY SM2320-CARBONATE	ND	10	mg/L (PPM)	KMJ	8/1/2013	
BARIUM EPA 200.8	44.4	40.0	mg/L (PPM)	SF	7/30/2013	
CALCIUM EPA 200.8	65600	1000	mg/L (PPM)	SF	7/30/2013	
CHLORIDE EPA 325.2	214000	5000	mg/L (PPM)	KMJ	7/30/2013	
CONDUCTIVITY SM2510-B	660000	1000	uS/cm	KMJ	7/30/2013	
IRON EPA 200.8	281	100	mg/L (PPM)	SF	7/29/2013	
MAGNESIUM EPA 200.8	6790	1000	mg/L (PPM)	SF	7/30/2013	
pH EPA 150.1	5.5	+/- 0.10	s.u.	CG	7/26/2013	
POTASSIUM EPA 200.8	6910	1000	mg/L (PPM)	SF	7/30/2013	
RESIDUE, FILTERABLE(TDS)/SM2540C	393000	3000	mg/L (PPM)	KMJ	7/30/2013	
RESISTIVITY	0.015		ohm-m	SS	8/1/2013	
SODIUM - EPA 200.8	35300	1000	mg/L (PPM)	SF	7/30/2013	
SPECIFIC GRAVITY	1.225			RS	7/30/2013	
SULFATE EPA 375.4	125	50	mg/L (PPM)	KMJ	7/26/2013	
SULFIDE EPA 376.2	0.50	0.10	mg/L (PPM)	RS	7/30/2013	

ND = NOT DETECTED
 LOD = LIMIT OF DETECTION
 SMCL = FEDERAL NON-ENFORCEABLE LIMIT
 MCL = MAXIMUM CONTAMINANT LEVEL
 s.u. = STANDARD pH UNITS REPORTED AT 25 C
 DISS = DISSOLVED

APPROVED BY: Shanna Shea
 SHANNA SHEA
 LAB MANAGER



3947 US 131 North Kalkaska, MI 49646

May 30, 2013

Ms. Lisa Perenchio
UIC Branch, DI Section Chief
US EPA Region 5 (WU-16J)
77 West Jackson Blvd.
Chicago, Illinois 60604

Mr. Raymond Vugrinovich
Michigan Department of Environmental Quality
Office of Geological Survey
Constitution Hall, South Tower, 1st Floor
525 West Allegan Street
Lansing, MI 48933

**RE: SWD Specialties, LLC Miller 23-41 Well, Harrison, Michigan
(#MI-035-11-C001, M-533) UIC Permit Signatory Change**

Dear Mr. Vugrinovich and Ms. Perenchio:

SWD Specialties, LLC currently operates the Miller 23-41 commercial Class I disposal well at its Harrison, Michigan site. Effective immediately Mr. Steve Kniss, Vice-President Operations will be responsible for operations and compliance and will assume primary signatory responsibility for well compliance issues at the site. Ms. Coleen Allen, Disposal Well Compliance Manager and Mr. Paul Husted, Operations Manager are also now to be considered designated signatories.

All future UIC correspondence should be addressed to:

Mr. Steve Kniss
VP, Operations
SWD Specialties, LLC
3947 US 131 North, P.O.Box 1030
Kalkaska, MI 49646

Ph: 231-258-9961 Fax: 231-258-9971

Please do not hesitate to contact me if you have any questions regarding this notice.

Sincerely,

A handwritten signature in black ink, appearing to read "S Kniss", written over a horizontal line.

SWD Specialties, LLC
Steve Kniss, VP Operations


cc: Colleen Allen - SWD
Ken Cooper - Petrotek



Company: Whiting Oil and Gas
2251 Simmons Road
West Branch, MI 48661
989-345-7903

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref 40 CFR Section 144.32)

Thank You



Colleen Allen

Northern A-1 Environmental Services

cc: Steve Kniss – SWD Specialties
Ken Cooper – Petrotek
Well File



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

OCT 30 2012

REPLY TO THE ATTENTION OF:
WU-16J

CERTIFIED MAIL 7009 1680 0000 7664 6185
RETURN RECEIPT REQUESTED

Shawn Humphrey
SWD Specialties, LLC
4030 Columbus Drive NE
Kalkaska, Michigan 49646

Re: Minor-modified US Environmental Protection Agency Underground Injection
Control (UIC) Permits State Blair 5-21 #MI-055-2D-C015; **Wedow State Blair 2-28**
#MI-055-2D-C033; Hogerheide 1-29 #MI-079-2D-C001; Simpson 1-9
#MI-079-2D-C008; and Wlosinski 2-27 #MI-079-2D-C016

Dear Mr. Humphrey:

The final minor-modified pages for the SWD Specialties, LLC permits referenced above are enclosed. They replace the correlated pages in the existing permits. Pursuant to Title 40 of the Code of Federal Regulations Section 144.41(e), these permits are modified as follows:

<u>Page/Permit Condition</u>	<u>Modification</u>
Att. D/List of Approved Sources	Add Source: 263 – Grant Field, Marshall #1, Zennenberg LLC

This action constitutes issuance of five minor-modified permits which become effective on the date specified in the permits. Should you have any questions, please contact Janette E. Hansen by phone at (312) 886-0241 or by email to hansen.janette@epa.gov.

Sincerely yours,

Lisa Perenchio, Chief
Direct Implementation Section, UIC Branch

Enclosures

cc: Rick Henderson, Michigan Department of Environmental Quality



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

SEP 17 2012

REPLY TO THE ATTENTION OF:
WU-16J

CERTIFIED MAIL 7009 1680 0000 7664 6161
RETURN RECEIPT REQUESTED

Shawn Humphrey
SWD Specialties, LLC
4030 Columbus Drive NE
Kalkaska, Michigan 49646

Re: Minor-modified US Environmental Protection Agency Underground Injection Control (UIC) Permits Miller 23-41 #MI-035-1I-C001; State Blair 5-21 #MI-055-2D-C015; **Wedow State Blair 2-28 #MI-055-2D-C033**; Hogerheide 1-29 #MI-079-2D-C001; Simpson 1-9 #MI-079-2D-C008; and Wlosinski 2-27 #MI-079-2D-C016

Dear Mr. Humphrey:

The final minor-modified pages for the SWD Specialties, LLC permits referenced above are enclosed. They replace the correlated pages in the existing permits. Pursuant to Title 40 of the Code of Federal Regulations Section 144.41(e), these permits are modified as follows:

<u>Page/Permit Condition</u>	<u>Modification</u>
Att. D/List of Approved Sources	Add Sources: 261 – Adams Field in the Dundee Formation at Shearer #1 Well, T19N, R3E Sec 26; and 262 – Williams Field in the Traverse Formation at Zimmerman 2-8 Well, T14N R3E Sec 14

This action constitutes issuance of six minor-modified permits which become effective on the date specified in the permits. Should you have any questions, please contact Janette E. Hansen by phone at (312) 886-0241 or by email to hansen.janette@epa.gov.

Sincerely yours,

Lisa Perenchio, Chief
Direct Implementation Section, UIC Branch

Enclosures

cc: Rick Henderson, Michigan Department of Environmental Quality
G:\UIC\Class 2\SWD Specialties\MINORMOD\New Sources Mod Sep 2012.doc

UNITED STATES POSTAL SERVICE

20 SEP

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SEP 19 2012

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PS Form 3800, August 2006 (Reverse) PSN 7530-02-000-9047

3800



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5

77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

NOV 2 2010

REPLY TO THE ATTENTION OF:
WU-16J

CERTIFIED MAIL 7001 0320 0006 0189 2096
RETURN RECEIPT REQUESTED

Richard Peck, PE, CPG
SWD Specialties, LLC
4030 Columbus Drive NE
Kalkaska, Michigan 49646

Re: One Class I and Five Class II Minor-Modified Underground Injection Control (UIC) Permits MI-035-1I-C001, #MI-055-2D-C015, #MI-055-2D-C033, #MI-079-2D-C001, #MI-079-2D-C008 and #MI-079-2D-C016

Dear Mr. Peck:

The final minor-modified pages for the five SWD Specialties, LLC permits referenced above are enclosed. They replace the correlated pages in the existing permits. Pursuant to Title 40 of the Code of Federal Regulations Section 144.41(e), these permits are modified as follows:

<u>Page/Permit Condition</u>	<u>Modification</u>
Class II Att. D/List of Approved Sources	Add source 257, Freeman Redding
Class I Att. G/ List of Approved Sources	Add sources 253 – 257 to bring this permit in line with the Class II permits

This action constitutes issuance of six minor-modified permits which become effective on the date specified in the permits. Your October 19, 2010, permit modification request included the Miller #23-41 permit as #MI-035-2D-C028. The class II permit for this well is no longer valid because a Class I permit for this well number (#MI-035-1I-C001) was issued in 2008. In the future, please use the new permit number for the Miller well. If you have any questions, please contact Dr. Stephen Roy by phone at (312) 886-6556 or by email to roy.stephen@epa.gov.

Sincerely yours,

Lisa Perenchio, Chief
Direct Implementation Section, UIC Branch

Enclosures

cc: Tom Wellman, Michigan Department of Natural Resources and Environment (by email)
Ray Vugrinovich, Michigan Department of Natural Resources and Environment (by email)

WU-16J:S.Roy:10/26/10:guic\class2\SWD Specialties\minormod\number66.docx

SR 10/26/10
DR 10/26/10
JA 10/28/10

RP 11/1/10



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

MAR 25 2008

REPLY TO THE ATTENTION OF:
WU-16J

CERTIFIED MAIL 7001 0320 0006 0186 8589
RETURN RECEIPT REQUESTED

Shawn Humphrey
SWD Specialties, LLC
4030 Columbus Drive NE
Kalkaska, Michigan 49646

**Re: Minor-modified Underground Injection Control (UIC) Permits #MI-035-2D-C028,
#MI-055-2D-C015, #MI-055-2D-C033, #MI-079-2D-C001, #MI-079-2D-C008,
#MI-079-2D-C016 and #MI-101-2D-C030**

Dear Mr. Humphrey:

The final minor-modified pages for the seven SWD Specialties, LLC permits referenced above are enclosed. They replace the correlated pages in the existing permits. Pursuant to Title 40 of the Code of Federal Regulations Section 144.41(e), these permits are modified as follows:

<u>Page/Permit Condition</u>	<u>Modification</u>
Att. D/List of Approved Sources	Add section 12 to location information for source #28. Add source 256, Fraser

This action constitutes issuance of seven minor-modified permits which become effective on the date specified in the permits. Should you have any questions, please contact Dr. Stephen Roy by phone at (312) 886-6556 or by email to roy.stephen@epa.gov.

Sincerely yours,

Lisa Perenchio, Chief
Direct Implementation Section, UIC Branch

Enclosures

cc: Dave Davis, Michigan Department of Environmental Quality
WU-16J:S.Roy:5/30/07:guic\class2\SWD Specialties\minormod\number65.doc



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

MAY 21 2013

REPLY TO THE ATTENTION OF:
WU-16J

CERTIFIED MAIL 7009 1680 0000 7664 5614
RETURN RECEIPT REQUESTED

Shawn Humphrey
SWD Specialties, LLC
4030 Columbus Drive
Kalkaska, Michigan 49646

Re: One Class I and Five Class II Minor-Modified Underground Injection Control
(UIC) Permits MI-035-1I-C001, #MI-055-2D-C015, #MI-055-2D-C033,
#MI-079-2D-C001, #MI-079-2D-C008, and #MI-079-2D-C016

Dear Mr. Humphrey:

The final minor-modified pages for the six SWD Specialties, LLC permits referenced above are enclosed. They replace the correlated pages in the existing permits. Pursuant to Title 40 of the Code of Federal Regulations Section 144.41(e), these permits are modified as follows:

<u>Page/Permit Condition</u>	<u>Modification</u>
1	Effective date of modification
Class II Att. D/List of Approved Sources	Add source 268, Kawkawlin Field
Class I Att. H/ List of Approved Sources	Add source 268, Kawkawlin Field

This action constitutes issuance of six minor-modified permits which become effective on the date specified in the permits. If you have any questions, please contact Janette E. Hansen by phone at (312) 886-0241 or by email to hansen.janette@epa.gov.

Sincerely,

Rebecca Harvey, Chief
Underground Injection Control Branch

Enclosures

cc: Rick Henderson, Michigan Department of Natural Resources and Environment (by email)
Ray Vugrinovich, Michigan Department of Natural Resources and Environment (by email)

Handwritten notes:
JSH 5/2/13
OK 4/30/13
JH 5/1/13
LH 5/2/13